COMMUNITY PHARMACY

Developing Structured-Learning Exercises for a Community Advanced Pharmacy Practice Experience

Renee Ahrens Thomas, PharmD, MBA

Shenandoah University, Winchester, Virginia

The recent growth in the number of pharmacy schools across the nation has resulted in the need for high-quality community advanced pharmacy practice experience (APPE) sites. A vital part of a student's education, these APPEs should be structured and formalized to provide an environment conducive to student learning. This paper discusses how to use a calendar, structured-learning activities, and scheduled evaluations to develop students' knowledge, skills, and abilities in a community pharmacy setting.

Keywords: advanced pharmacy practice experience, structured learning, community pharmacy

INTRODUCTION

Structured learning is vital in a community advanced pharmacy practice experience (APPE). It promotes student knowledge development and provides an environment conducive to learning new skills and abilities. This article will provide information on how to prepare, develop, and evaluate structured-learning activities within an APPE through the use of a calendar, suggested readings, and varied activities. Activity ideas and implementation suggestions are given as well as examples that can be used to create a high-quality experiential site conducive to student learning.

Preparation for the APPE

To ensure a high-quality advanced practice experience, preparations for an APPE should be made before a student arrives. Goals and objectives need to be developed, orientation materials gathered, and a schedule and calendar created to coincide with learning activities. Both the needs of the practice site and the needs of the university should be considered in the construction of the APPE's goals and objectives. These objectives should be incorporated into the orientation materials and considered when the schedule and calendar are made for the student's APPE. These preparations create organization and structure for the APPE and help prepare the pharmacy staff for the APPE. Adequate preparation helps ensure the experience is meaningful for both preceptors and students.

Schedule and Calendar

A schedule of activities should be developed that meets the APPE's defined goals and objectives. A simple

Corresponding Author: Renee Ahrens Thomas, PharmD, MBA, Bernard J. Dunn School of Pharmacy, Shenandoah University, 1775 North Sector Court, Winchester, VA 22601. Phone: 540-678-4397. Fax: 540-665-1280. E-mail: rahrens@su.edu

way to organize the schedule is to use a calendar (Figure 1). There are many easy-to-use software programs that create calendars with minimal effort (eg, Microsoft *Publisher* or *Outlook*). A calendar format allows the preceptor to quickly outline daily activities and due dates for projects. It helps to organize and distribute the workload throughout the APPE and provides accountability by giving the students and preceptor a schedule to follow. Not all activities will lend themselves to placement on a calendar, however. Required activities that occur on a daily basis, such as drug information questions and patient counseling, should be discussed with the student separately.

To construct the calendar, the preceptor should determine evaluation dates first. Evaluations are an important component of an APPE and help determine when a student's projects and presentations are scheduled. Both a mid-APPE and a final formal evaluation should be conducted. Evaluation dates are placed on the calendar first so that student presentation and project due dates can be distributed evenly throughout the rest of the APPE. Even distribution of deadlines is important to ensure students have adequate preparation time and to ensure not all of the presentations and projects are evaluated at the same time.

The number of presentations and projects that are assigned during an APPE depends upon its length. Typically 1 major presentation or project is given if the APPE is 1 month or less; 2 projects are assigned if the APPE is longer than 4 weeks. Projects can be chosen several different ways. If there is a needed project within the pharmacy, it can be assigned to the student. However, it is better if the student helps to choose the project. The preceptor may have a list of project ideas from which the student can select or they may brainstorm ideas together during the orientation session. Also, experiential education coordinators may have ideas for projects that can be

Next Door Pharmacy

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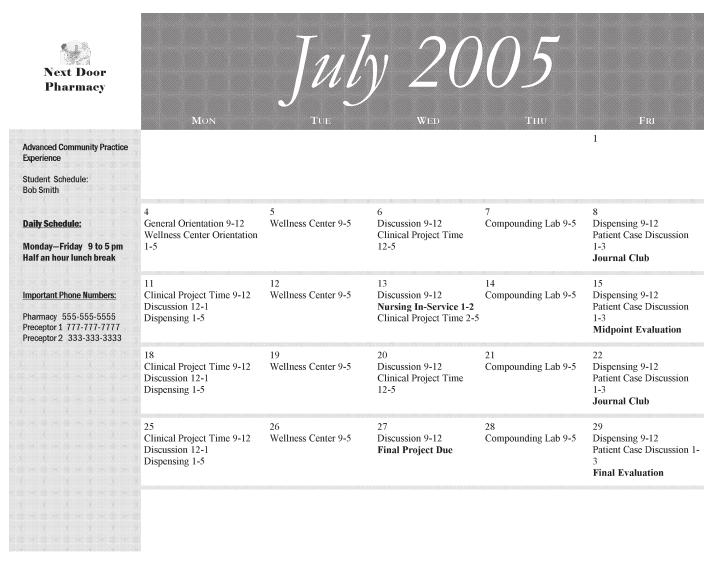|	MON	TUE	WED	THU	FRI
Advanced Community Practice Experience Student Schedule: Bob Smith					1
Daily Schedule: **Monday—Friday 9 to 5 pm** **Half an hour lunch break**	4 General Orientation 9-12 Wellness Center Orientation 1-5	5 Wellness Center 9-5	6 Discussion 9-12 Clinical Project Time 12-5	7 Compounding Lab 9-5	8 Dispensing 9-12 Patient Case Discussion 1-3 **Journal Club**
Important Phone Numbers: Pharmacy 555-555-5555 Preceptor 1 777-777-7777 Preceptor 2 333-333-3333	11 Clinical Project Time 9-12 Discussion 12-1 Dispensing 1-5	12 Wellness Center 9-5	13 Discussion 9-12 **Nursing In-Service 1-2** Clinical Project Time 2-5	14 Compounding Lab 9-5	15 Dispensing 9-12 Patient Case Discussion 1-3 **Midpoint Evaluation**
	18 Clinical Project Time 9-12 Discussion 12-1 Dispensing 1-5	19 Wellness Center 9-5	20 Discussion 9-12 Clinical Project Time 12-5	21 Compounding Lab 9-5	22 Dispensing 9-12 Patient Case Discussion 1-3 **Journal Club**
	25 Clinical Project Time 9-12 Discussion 12-1 Dispensing 1-5	26 Wellness Center 9-5	27 Discussion 9-12 **Final Project Due**	28 Compounding Lab 9-5	29 Dispensing 9-12 Patient Case Discussion 1-3 **Final Evaluation**

Figure 1. Example of a calendar for a community advanced pharmacy practice experience.

used to meet the experiential learning objectives of the APPE. If a student has difficulty deciding on a project, the preceptor should ask about the student's career goals and interests. If a project can be applied to a student's interests or be useful in his/her future career, the student will have more ownership in the project. Another way to select a project is to determine the student's weaknesses and choose a project that strengthens those areas. For example, if a student has problems communicating information in front of a group, the project assigned may be developing and presenting a community education seminar. In general, projects are best if they benefit both the student and the pharmacy.

Daily activities are filled in last on the calendar. It is desirable for daily activities to be a mix of dispensing and clinical activities (ie, activities that involve patient care). The preceptor should consider the Center for the Advancement of Pharmaceutical Education (CAPE) outcomes when choosing the activities. The activities

should be diverse enough to give students well-rounded experiences. Activities can be one-time events (eg, a health fair) or may be longitudinal (eg, dispensing). Some activities will repeat weekly. For example, the preceptor may have a student spend 1 day per week in the compounding laboratory and 2 days per week dispensing. Regular discussion times can also be included on the calendar. Discussions may be daily or weekly and can include topics such as patient cases, legal and regulatory issues, required readings (Table 1), and clinical guidelines. A student values time spent with the preceptor, and these discussion times can be a valuable opportunity to informally assess how the APPE is progressing. Discussion times can also be a productive experience for the preceptor as preceptors often learn from their students as their students learn from them.

If possible, the APPE calendar should not be finalized until the incoming student's needs and interests are taken into account. For example, if a student has extensive

Table 1. Suggestions for a Required Reading List for Students in an Advanced Pharmacy Practice Experience

Reading	Source
Guidelines for the Diagnosis and Management of Asthma	National Heart, Lung, and Blood Institute – National Institutes of Health http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.htm
Clinical Guidelines on Cholesterol Management in Adults (ATP III)	National Heart, Lung, and Blood Institute – National Institutes of Health http://www.nhlbi.nih.gov/guidelines/cholesterol/index.htm
Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7)	National Heart, Lung, and Blood Institute – National Institutes of Health http://www.nhlbi.nih.gov/guidelines/hypertension/index.htm
Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults	National Heart, Lung, and Blood Institute – National Institutes of Health http://www.nhlbi.nih.gov/guidelines/obesity/ob_home.htm
Chapter 7: Creating a Business Plan for Patient Care	"Managing the Patient-Centered Pharmacy" Editors: Harry P. Hagel, John P. Rovers, Washington D.C.: American Pharmaceutical Assocation; 2002.
Chapter 13: Reimbursement	"A Practical Guide to Pharmaceutical Care, 2nd Ed" Editors: John P. Rovers, Jay D. Currie, Harry P. Hagel, Randal P. McDonough, Jenelle L. Sobotka, Washington D.C.: American Pharmaceutical Association; 2003.
Chapter 5: Patient Counseling	"Communication Skills, 2nd Ed" Bruce A. Berger, Washington D.C.: American Pharmaceutical Association; 2005.
The Asheville Project: Long-Term Clinical and Economic Outcomes of a Community Pharmacy Diabetes Care Program	Cranor CW, Bunting BA, Christensen DB. J Am Pharm Assoc. 2003;43(2):173-184.
Regional Osteoporosis Screening, Referral, Monitoring Program in Community Pharmacies: Findings from Project ImPACT: Osteoporosis	Goode JV, Swiger K, Bluml BM. J Am Pharm Assoc. 2004;44(2):152-160.
Pharmaceutical Care Services and Results in Project ImPACT: Hyperlipidemia	Bluml BM, McKenney JM, Cziraky MJ. J Am Pharm Assoc. 2000;40(2):157-165.

experience in retail pharmacy, the preceptor may decide to decrease the dispensing component of the APPE and increase the time spent in the compounding laboratory. During the orientation session, the preceptor should talk with the student about goals and objectives for the APPE, how they were developed, and how the planned activities on the calendar meet the goals and objectives. The preceptor can let the student know that these documents will be referred to during the APPE to ensure that all of the objectives and timelines are met. The preceptor should discuss project ideas for the APPE and allow students to review past student projects to give them an idea of the type of projects that have been done. The orientation session is also a good time to review any required readings for the APPE, explaining the importance of each one. The preceptor can let the student know the timeframe that he/she has to complete the readings or ask the student to read a portion of them each week. The last item to discuss on the calendar is the evaluation timeline and procedure. The preceptor should let the student know that several formal evaluation periods are scheduled, but informal feedback is always available. The student should be familiar with the evaluation forms and how they are used by the end of the orientation session. The preceptor should allow time for student questions and comments about the APPE.

Due to the unpredictable nature of a community pharmacy setting, the calendar should be a guide, not a firm schedule, and the student should be told this. Discussions and activities may need to be moved to accommodate unforeseen events.

Sharing a copy of the student's schedule with the pharmacy staff is also important. They should be aware of the student's goals and objectives, scheduled activities, and responsibilities for the APPE. This ensures that students are not asked to do things on a regular basis that are outside of their stated responsibilities.

APPE ACTIVITIES

Once the orientation process is finished, it is time for the student to begin the APPE activities. There are a variety

of APPE activities that can be scheduled (Table 2); however, not all will be appropriate for every clinical setting. A preceptor may choose to use different activities in different APPEs or use the same mix for each APPE. As the preceptor decides upon which activities to use, he/she should refer back to the college's goals and objectives for the APPE. Choosing activities that allow these goals and objectives to be met within the APPE is important. Various APPE activities are discussed in more detail below.

Dispensing

Dispensing is one of the most basic and necessary activities within a community pharmacy. Students should have a good understanding of dispensing activities before finishing a community APPE. However, many students have worked in retail pharmacy settings and know the dispensing process well. Therefore, integrating therapeutic knowledge discussions with the necessary pharmacy dispensing activities is helpful. To do this, the preceptor should discuss with the student the medication that is being dispensed. The student should be asked to state the brand and generic name for the medication as well as the strengths and dosage forms commercially available. The preceptor can quiz the student on each disease state for which the medication is indicated and ask questions about the disease's signs and symptoms, diagnosis, and prognosis. To take it a step further, the preceptor can ask the student to list other medications used to treat the disease. This "reverse therapeutics" discussion trains the student to look at a medication list and determine all potential disease states being treated. Through these discussions, the student's medication and disease state knowledge bases are built.

Students need experience interacting with other health care professionals, so the preceptor should involve them in medication change recommendations. There are a variety of reasons that medication changes are needed. A medicine may need to be changed to one that is on a formulary, or an error on the prescription may need to be corrected. The reasons for a change should be discussed and the student should be asked for suggestions for a substitution. The student should also provide a ratio-

nale and evidence for his/her suggestions. This helps to determine whether the student's thought process in making the suggestion is correct so the preceptor can provide advice where needed. The first time that a call needs to be made to a health care provider regarding a medication change, the preceptor should model the correct behavior by making the request himself/herself. If possible, the student should listen to the conversation from a second phone. The next time that a change needs to be made, the student can make the call to the provider while the preceptor supervises. This "show then do" mentality builds a student's confidence and helps prepare him/her to be a solo practitioner.

Other daily activities in which the student can be involved are pediatric drug dosing and refill reminders. If feasible in the pharmacy practice setting, the student can be asked to calculate every pediatric dose for medications that are dispensed. This exercise provides the student with a good review of pharmaceutical calculations and pediatric dosage ranges for common medications. Another way to involve the student in the dispensing function is to ask him/her to call patients to remind them to refill a chronic medication. This activity works best in a store that is less busy or has a low prescription volume.

Another clinical activity in which the student can be involved is an antibiotic call-back program.[1,2] Assisting with these programs gives students drug information practice as well as patient interaction on a variety of topics. A computer system can be used to print out a list of patients who have received an antibiotic in the last 3 to 4 days. The student can call each patient, ask how the treatment is progressing, check for adverse effects, and remind the patient to finish the entire therapy. Patients are appreciative of the extra effort the call represents, and the student may discover a problem with compliance or adverse effects during the call that requires intervention. Patients may take the opportunity during the call to ask about other medication issues unrelated to the antibiotic. The preceptor should prepare the student for this possibility and assure him/her that an immediate answer is not normally needed. The student can tell the patient that research is needed and ask if he/she can call the patient back. To educate patients about the program, a bag stuffer describing the program can be included when antibiotic prescriptions are dispensed. Students should also mention the program when counseling a patient about a new antibiotic prescription and let the patient know to expect a call.

Drug Information

Students are a great resource for answering drug information questions from patients, physicians, and other pharmacists. Universities provide training in drug information, and students usually have access to their university's

Table 2. Possible APPE Activities

Dispensing	Drug Monograph
Drug Information	Off-site Elective Activities
Patient Counseling	Patient Care Activities
Compounding	Adverse Drug Reporting
Patient/Case Discussions	Community Education Seminars
Journal Club	Empathy Assignment
Nonprescription Formulary	Pharmacy Management Activities

online resources. Even the best-trained students, however, need practice in working with different references and trying new search strategies to answer questions. It is helpful to have a standardized drug information process within the pharmacy. This may entail a drug information form that is filled out by the student. The benefit of these forms is that they force the student to think about answering the question as a process. They need to clearly define the question, list the search strategy used, document the answer, and record the resources used. Once a form is filled out, it can be filed in a binder for future reference. These finished forms also provide a good example for future students to follow as they learn to use the form. When the student finishes a form, the preceptor should make sure that he/she discusses the student's answers and the resources the student used. The preceptor should ensure that the answer is appropriate and give suggestions for additional resources as needed.

Patient Counseling

APPE students generally have had some training in patient counseling within the courses they have already completed and potentially within their work environment. However, the APPE might be the first place where they are counseling real patients on a regular basis. To help a student prepare for counseling patients, the preceptor should create practice patient scenarios. These can be simple situations pulled from everyday encounters within the pharmacy. For example, the preceptor could have the student counsel him/her as if he/she were a mother picking up an antibiotic suspension for her child. By using these counseling scenarios, the preceptor can assess the student's communication skills and identify strengths and areas that need improvement. These sessions can also be used to review basic administration methods such as the inhaler technique. If the student struggles with patient counseling skills, the preceptor should have the student shadow him/her while he/she models successful patient counseling. After the preceptor models several encounters, the student should counsel the next patient while the preceptor supervises. Once the preceptor feels comfortable with the student's skills, he/she should set aside a day or a portion of a day for the student to counsel every patient who picks up a prescription. The student should also spend time in the nonprescription product aisles helping patients choose appropriate products.

Compounding

Compounding is another area where students normally have little practical experience. Most schools teach basic compounding techniques, but these courses are generally completed early in the curriculum and the student's skills, if not practiced, fade quickly. To help a student prepare for work in a compounding laboratory, he/she should first be given a set of problems to solve. The problems should be typical of the type used to prepare compounded formulas in the practice setting. The student should be given time to work through the problems and then the preceptor should sit down with the student to review the answers. By doing this, the preceptor can evaluate the student's competency level and, if needed, suggest the student review his/her pharmaceutical calculations notes before working in the compounding laboratory.

If time allows, the business and science of compounding should be discussed. Topics to cover include good manufacturing technique, laws and regulations governing compounding, marketing of compounded products, and how compounded products differ from commercially available products. Questions about compounded products may even lead to discussions about disease states, as the preceptor talks about how the compounds are used.

Patient/Case Discussions

Case studies are a great way to prepare a student to work with patients and may also be used to evaluate the student's assessment skills and therapeutic knowledge base. The preceptor should ask the student to identify and write up one or more patient cases per week. Patients chosen for case write-ups should have more than one disease state and multiple medications. If the student needs more practice with nonprescription medications, the preceptor can ask that one of the patient cases come from a nonprescription consult.

It is helpful to use a standardized format to write up the case and the college may have a standard template for use. The most commonly accepted format in the medical world is the SOAP (Subjective, Objective, Assessment, Plan) note.[3,4] The SOAP note's defined structure provides organization to the case write-up and helps prevent omission of important information. The student can present cases to the preceptor as they are finished or during a scheduled discussion time during the week. When the student finishes presenting, the preceptor should discuss the patient and the student's recommendations, making suggestions where needed. The student should be encouraged to follow up on any recommendations that are appropriate.

If the student's presentation skills need practice, the preceptor can ask him/her to do a formal case presentation to the pharmacy staff. Before the presentation, the case should be reviewed with the student to ensure the information being presented is accurate. The student can practice presenting the case to the preceptor first. One word of caution: all patient identifying information should be removed from the case before it is formally presented.

Journal Club

A journal club is a great way to keep students and pharmacy staff updated on recent therapeutic topics and new clinical insights. Journal clubs involve the critique, evaluation, and presentation of a recently published article. Students can be assigned an article or allowed to choose one, given a set of parameters (eg, relevancy to the community pharmacy setting, less than one year old, etc). The goal of having a student evaluate and present an article is to build his/her critical thinking and assessment skills as well as appreciation for primary literature. The benefits to the pharmacy staff are free education and review of a recent clinical topic. The journal club presentation should be scheduled at a time that is convenient for pharmacy staff members to attend. The preceptor may even decide to coordinate with other APPE sites in the area to hold a larger journal club that meets more frequently.[5-7]

Nonprescription Drug Formulary

A nonprescription drug formulary is a reference document that is used to help choose an appropriate nonprescription product for a patient. A formulary may be for the general population or specific for a disease state, patient population, or condition. One or more product recommendations can be given in each therapeutic category (eg, cough and cold, constipation, heartburn, etc). For each product chosen, the following information should be listed:

- Brand name
- Active ingredient and strengths
- Therapeutic class
- Directions for use
- Warnings and precautions
- Adverse effects
- Drug interactions

Once completed, these formularies can be filed and referenced as needed by both students and pharmacists. It is helpful if they are updated periodically to ensure accuracy and timeliness.

Drug Monograph

A drug monograph may be completed on a new drug, herbal product, or nonprescription product. The goal of this project is to increase students' medication knowledge and information retrieval skills. A monograph contains all the important information about a medication, including trade name, major ingredient(s), manufacturer, therapeutic class, dosage form(s), indication, dosage, directions for use, counseling points, pharmacology, contraindications, precautions, adverse drug reactions, suggested length of therapy, and therapeutic endpoint. As the student develops his/her monograph, he/she should cite references used. Monographs can be shared with the pharmacy staff, especially if they are completed on new or upcoming medications. The student may formally present the monograph or give a copy to each pharmacist in the store.

Off-Site Elective Activities

Partnering with another organization to provide an elective experience for a student can be beneficial for both the student and the pharmacy. Elective activities give students experience in a related area and provide good networking opportunities for the pharmacy. These electives may be any length; if the APPE is short, an elective experience may be only 1 to 2 days in length. If the APPE is 6 weeks, the elective may be for a week or longer. Some possible partnering organizations or individuals include free medical clinics, ambulatory care clinics, state pharmacy associations, medical education liaisons, hospice organizations, nursing home consulting companies, and other community pharmacies. An elective opportunity could also involve the student spending time with the company's district manager or in the corporate office. Electives are useful if they allow the student to gain additional skills that can be utilized during the APPE. They also broaden a student's perspective about the career opportunities available in pharmacy. Before scheduling an elective activity, the preceptor should discuss it with the college's experiential coordinator. The elective activity may cover goals and objectives that are included in other APPEs and therefore not appropriate.

Patient Care Activities

If possible, the student should be involved in every clinical activity within the store. Students are an excellent resource for developing or running screening, patient care, or disease state management programs. They can help with the design and implementation of a new program or participate in an established program. Working with these programs gives the student patient care practice and builds confidence in his/her patient care skills.

Since performing screenings or in depth counseling can be daunting for a student at first, it is important for the preceptor to model a patient interaction first. The preceptor could ask a patient if the student could observe the pharmacist's meeting with him/her. This allows the student to see firsthand how the service is performed and what type of counseling is given. If the preceptor performs a lot of screenings, he/she may educate the student on the correct screening procedure first and then have the student practice the screening with him/her. The first few times the student performs a screening or provides education within a disease state management program, the preceptor should be there to provide support. If wrong information is given to the patient, the preceptor should correct it

immediately. In most situations, however, it is preferable for the preceptor to wait until the session has ended and give feedback to the student privately. The preceptor should let the student know what they did well and areas for improvement. As the student becomes more comfortable and the preceptor feels confident in the student's skills, he/she can allow the student to see patients alone. Depending upon their knowledge base and previous experience, some students will quickly be able to practice independently and others will need more practice. With all students, it is a good idea to review the Health Insurance Portability and Accountability Act (HIPAA) patient confidentiality regulations and the Occupational Safety and Health Administration's (OSHA) requirements pertinent to patient care.

A student can also help in developing a new screening or disease state management service within the pharmacy.[8,9] They may even help the preceptor in implementing medication therapy management (MTM) services.[10] Since there are so many steps involved in the implementation of a service, a student's project may only involve a small piece of the development. A student can help in the development of a needs assessment, a business plan, clinical protocols, documentation materials, patient education resources, marketing materials, evaluation strategies, or quality assessment plans. No matter what part the student is involved with, the full development and implementation plan for the program should be shared with him/her. This helps the student understand the importance of the part he/she is developing. The preceptor may want to invite the student back to the pharmacy once the program is implemented so the student can see how his/her contribution helped the program be launched successfully.

Adverse Event Reporting

Unfortunately, mistakes are made within every pharmacy. To better understand how to prevent medication errors they need to be documented and the system that created them examined. Students need to be trained in the importance of reporting errors when they occur. The preceptor should discuss medication errors and prevention techniques with the student. If the preceptor is comfortable talking about errors committed within the pharmacy, it is helpful to give the student real-life examples. The Institute for the Advancement of Community Pharmacy (www.advancepharmacy.org) also has a free, 10-minute video about medication errors entitled, "Prescription for Quality and Patient Safety." This video could be shown to the student first to stimulate discussion.

The different national error reporting systems can be discussed with the student as well. The MedWatch program is run by the US government and allows health care professionals and consumers to report problems with medications. To give the student practice in reporting, the student should be asked to print out and complete the MedWatch voluntary reporting form (found on the web site http://www.fda.gov/medwatch/index.html) for a fictitious medication error. If an actual error occurs while the student is completing the APPE, he/she can fill out and submit the actual form online. If immunizations are given within the pharmacy, the Vaccine Adverse Event Reporting System (VAERS) should also be discussed with the student. More information about VAERS can be found at http://vaers.hhs.gov/.

Community Education Seminars

Presenting community education seminars is a great way for a student to get involved in the community and bring visibility and goodwill to the pharmacy. These seminars also give the student presentation skills practice. Community groups should be contacted to gauge their interest in an educational seminar. One way is to send out a letter informing them that speakers are available. Within the letter, seminar topics from which the group can choose should be listed. Group leaders can also be contacted directly to inform them of the availability of educational seminars. Community groups to contact include community service groups, local schools, and nursing homes. Presentations at a nursing home may be to the residents, aides, or nurses. One idea is to contact the head nurse of a local nursing home and ask if they would like an in-service presentation on a medication-related topic. They may be interested in having regular in-service presentations, and presentation topics and dates can then be scheduled well in advance. The downside of setting up presentations in advance is that the preceptor must be willing to do the presentation if an APPE student is not available.

Empathy Assignment

Many students have never lived with a chronic disease. Giving the student an empathy assignment allows him/her to experience the challenges associated with a chronic disease state. An empathy assignment involves a student following the medication and lifestyle regimen of a patient with a chronic disease such as asthma or diabetes. For example, the student could be given saline and insulin needles (as allowed by state law) and told to self-inject themselves twice per day, take "medications" (candy representing medications), perform blood glucose monitoring at least twice per day, practice good foot care, and follow a strict diet with exercise (see Appendix 1 for a sample worksheet). The preceptor may choose to have the student follow the regimen for as little as a day or as long as a week. The overall goal of the assignment is to help students develop empathy and coping mechanisms

that can be shared with patients, as well as impress upon them how difficult it can be to adhere to an involved medication and care regimen.

Pharmacy Management Activities

Pharmacy management is another area in which students need more practical experience. Some management principles are taught in the classroom, but an APPE is an excellent place to show students how these principles are applied. The goal of teaching students about pharmacy management is to improve their understanding of business principles. One or 2 discussion times should be set aside for the preceptor to talk with the student about such topics as reimbursement, sales and profits, management of staff (include scheduling), creation of a business plan, performing a SWOT (strength, weakness, opportunity, and threat) analysis, pricing of services, and pharmacy laws and regulations. If a student is interested in learning more about the business of pharmacy, one of their projects could be management related. Even students who do not plan to own their own pharmacy can benefit from a basic understanding of how financial and other business decisions are made.

EVALUATION OF THE APPE

Evaluations are important throughout APPE activities to help a student monitor his/her progress and learning. There should be both formal evaluations that are done at specified times and informal evaluations, which can be done as needed during the APPE. Formal evaluations should be written and include both the APPE experience and evaluation of the site. One of the best ways to do formal evaluations is to have both the preceptor and student fill out the evaluation form. A time can then be set aside to discuss the form and compare answers. This allows for an open dialogue of how the APPE has progressed, areas of strengths, and areas of weaknesses. It also allows any misperceptions to be corrected. For example, when scoring a student project, a preceptor may not have realized all of the background work that the student completed. The final scoring on an evaluation form belongs to the preceptor, but input from the student is valuable, and even more importantly, is a learning experience for the student. Formal evaluations occur at least twice during an APPE: once at the midpoint and once at the end. Midpoint evaluations are a valuable time to provide feedback to the student while there is still time for improvement. During a midpoint evaluation, identify areas for improvement and develop goals to achieve that improvement. The preceptor's final evaluation may be based on how well those goals were met.

Informal evaluations occur throughout the APPE. Each activity that is completed should be informally evaluated at the time of completion. This evaluation usually involves a discussion about what was done well and suggestions for improvement. In general, try to give this feedback immediately after an activity is finished. The information will still be fresh and more specific suggestions and compliments can be given. These discussions help the student measure his/her progress toward meeting the goals and objectives of the APPE and may avoid any surprises in the formal grading process. Each activity should help to accomplish the goals and objectives of the APPE, and these informal evaluations help ensure that students are meeting the expected outcomes of the APPE.

CONCLUSION

Structured-learning activities develop a student's knowledge, skills, and abilities. This benefits not only the student, but also the pharmacy profession as more competent pharmacists are trained. Using the approach delineated in this article, structured-learning exercises can be added to an APPE to enhance student learning.

ACKNOWLEDGMENT

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Appendix 1. Empathy Assignment

PATIENT EMPATHY ASSIGNMENT - DIABETES

Instructions

You will have diabetes on Wednesday, January 30, through Tuesday, February 5. During this time, you will follow a patient with diabetes' medical and exercise regimen for seven days. This includes taking medication, self-monitoring your blood glucose, demonstrating good foot care, eating healthy foods, and performing light exercise.

This assignment is meant to give you a taste of what living with diabetes is like. It is not meant to minimize the seriousness of the disease or the consequences that can arise from it.

Drug Regimen

Type 1 Diabetes	Type 2 Diabetes
Insulin R 5 units, twice daily	Glipizide 10 mg, twice daily, 30 minutes AC
Insulin N 10 units AM & 5 units PM	Glucophage 500 mg, three times daily, with meals

Self-Monitoring

You will be testing your blood glucose at least twice a day. It is up to you what time of the day you would like to test it, with a suggestion given to choose different times on different days. For the first five days, take only preprandial readings. The final two days, take at least one of the two readings 2 hours postprandial. Be sure to mark in your log whether your readings were fasting or non-fasting.

Diet

Choose healthy foods low in sodium, fat, and cholesterol this week. Keep a food diary during the day, recording the foods eaten at each meal as well as any snacks.

Exercise

Perform a light exercise of your choice (e.g., walking) for 20 minutes daily. On one day, check your blood glucose before and after the exercise.

Foot Care

Examine your feet at least once per day, looking for areas of redness, sores, or cracks in the skin.

Questions to Answer

1. How easy/difficult did you find it to follow the prescribed regimen? Did you follow the directions exactly as they were written?

2. What issues must a person with diabetes deal with on a daily basis?

3. How can you use your experience in this assignment to assist patients with diabetes?